ACUTE PHARYNGITIS.

BY

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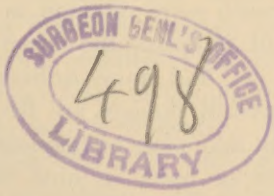

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ACUTE CATARRHAL PHARYNGITIS.

Synonymes.—Acute sore throat; acute inflammation of the pharynx; angina catarrhalis acuta.

Etiology.—Acute catarrhal pharyngitis is considered by many one of the typical remainders of those affections which we were formerly wont to term "diseases caused by a cold."[1] It is true that "catching cold" then played a more important *rôle* in the etiology of diseases than it does now; we have learned but during the last decade that many of the diseases supposed to have been caused by "colds" were in reality produced by pathogenic germs or other causative factors. In fact, serious objections have been raised against the term "a cold." But it cannot be denied that what for convenience' sake we call "a cold" is one of the principal etiological factors in ordinary cases of acute catarrhal pharyngitis. These colds may be direct or indirect; and acute pharyngitis is in many persons most commonly observed after the feet have become chilled. For this reason we find this affection much more common in those seasons when people are more apt to take cold, as during the changeable days of autumn and early spring. Moreover, we find more sufferers in countries where thermometrical and barometrical changes are frequent and abrupt than in those where changes do not take place so frequently and then only by degrees.

It must, however, be borne in mind that epidemics of common acute catarrhal angina do occur in seasons when these fluctuations of thermometrical and barometrical conditions do not exist, and that there are also sufficient observations to prove that cold *per se* cannot in all cases be looked upon as the cause of the angina. There must be, in addition to the cooling off, another factor, rendering the cold but a predisposing element; or the cold may be entirely absent. We all have experienced that an acute catarrhal pharyngitis may occur where not the slightest exposure to cold can be traced. Fick,[2] in a dissertation upon this subject of "catch-

[1] The Germans have one word for it, "Erkältungskrankheiten."

[2] Ueber Erkältung, Zürich, 1887, p. 25.

ing cold," denies that a "cold" is a principal cause of *any* disease. He says that in most cases where "cold" was called the cause of the disease, according to his observations, no disease followed at all, and that in the small number of cases where the "cold" was followed by disease a causal connection between the two could not be established with certainty. Bernabei [1] has found that many cases of primary acute angina are caused by streptococci, especially the erythematous form, which is epidemic and contagious and occurs in spring and autumn. Rendu and Boulloché [2] are even of the opinion that all acute anginas are of bacterial origin, and similar views are held, of late, by many other observers.

There is another important group of etiological factors for acute pharyngitis. Many acute febrile diseases, as scarlet fever, measles, small-pox, erysipelas, typhoid fever, are ushered in, or accompanied as secondary symptoms, by acute pharyngeal inflammations. These are also found after the suppression of cutaneous exanthemata, or in the course of syphilis; after injuries to the throat, as scalding, use of strong acids or alkalies, ingestion of too highly seasoned foods or irritating liquors or vapors; also after certain drugs, like atropine, antimony, iodide of potassium, mercurial preparations, etc., and following abuse of tobacco and wine, and improper use of the voice. Acute pharyngitis may also be observed as a reflex symptom of gastro-intestinal and genito-urinary disturbances, or as being directly propagated from morbid processes in the neighboring organs, especially in the nose and the mouth.

Predisposing factors are any conditions that impair the general health, like disturbances of digestion, assimilation, and circulation; constitutional diseases, like syphilis, rheumatism, and tuberculosis; also the existence of chronic catarrhal conditions of the naso-pharyngeal tract, the presence of granular pharyngitis, hypertrophy of the tonsils, obstructions of the nose of whatever kind, and, in fact, anything that leads to mouth-breathing. One may, at times, speak of an inherited tendency to catarrhal affections of the mucous membrane in several children of one family, as also, in certain persons, of an increased vulnerability of the pharyngeal mucosa, which appears to be with them a *locus minoris resistentiæ*. This is especially the case in persons of sedentary habits who have very little out-door exercise and who are prone to chronic constipation; also in people who are in the habit of living in overheated rooms, or who are compelled to breathe continually a vitiated atmosphere; and in children whose over-careful parents, in the endeavor to protect them, bring them up as hot-house plants and neglect an early hardening of the skin.

Age and sex seem to have but little influence in inviting this disease.

Symptoms.—The symptoms depend largely upon the severity and the extension of the process. The lower pharynx, or the pars oralis of the pharynx,

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[1] Sulle Forme di Angina da Streptococco, Riforma Med., November 3, 1891.

[2] Gazette des Hôpitaux, June 12, 1891.

the soft palate, and the uvula, alone may be affected; or the upper pharynx —*i.e.*, the pars retro-nasalis, including the vault of the pharynx—alone may be the seat of the inflammation, in which case it is proper to designate it by a special name,—either pharyngitis superior or naso-pharyngitis, or (etymologically better) rhino-pharyngitis. Many authors, indeed, describe this affection as a disease *per se*, and the peculiar symptoms certainly justify them in doing so. On the other hand, the inferior and the superior pharyngitis are so frequently found in the same patient that, for practical reasons, they may be considered together. In fact, J. Moure[1] is of the opinion that an acute catarrh of the naso-pharynx accompanies almost always a simple case of acute pharyngitis. In the beginning of an attack of acute angina there is a slight rise of temperature, although mild cases are seen where this symptom is entirely wanting, and where if it were not for the slight discomfort in the throat the angina might pass entirely unnoticed. Yet the temperature may rise considerably in severe cases, especially in children. One must not be surprised to find, though as a rare occurrence, in adults a temperature of 105° F.; and an initial chill, especially in the epidemic form, has been noticed among the first symptoms. Young children may have convulsions. The patients, particularly the younger ones, complain frequently of a tired feeling; and in the cases that are of rheumatic origin the whole neck may be painful to the touch and stiff as in torticollis. The throat feels hot and dry, and the patient often complains of a peculiar scratching sensation. This dry sensation, however, is, according to Rühle,[2] not always dependent upon an actual dryness of the mucosa. However, these symptoms may or may not be present. In all cases pain is complained of, which may vary from a slight disagreeable sensation to that of intense suffering. In some cases deglutition only is painful, in others these painful sensations are present at all times, and more so towards evening. If the post-nasal space is also affected, or is the exclusive seat of the affection (pharyngitis superior), the pain is localized in this region. It is, however, remarkable that patients who have this affection for the first time find difficulty in localizing the pain of which they complain; they generally designate the pharynx, or even the larynx, as being the seat of their trouble, or they refer to the roof of the mouth.[3] In all such cases it is of importance not to omit an examination of the naso-pharynx. The seat of this inflammation explains readily why such symptoms as fulness of the whole head, headache, earache, tinnitus aurium, and deafness (either

[1] Manuel pratique des Maladies des Fosses nasales et de la Cavité naso-pharyngienne, Paris, 1886, p. 255.

[2] Ueber Pharynxkrankheiten, Volkmann's Sammlung Klinischer Vorträge, No. 6, p. 24.

[3] In this connection it may be mentioned that the sense of locality of the pharyngeal mucosa is but poorly developed. Schadewaldt, in an essay upon this subject (Ueber die Localisation der Empfindungen in den Halsorganen, Deutsche Medicinische Wochenschrift, 1887), has shown that physiological as well as pathological irritations of the whole respiratory tract are frequently referred to wrong localities.

partial or complete) may be accompanying features. In severe cases both catarrhal and purulent otitis media, with possible perforation of the drum-head, are seen either early in the beginning or as sequelæ of the naso-pharyngeal affection. Bosworth [1] calls special attention to the fact that the first stage of abnormal dryness of the membrane will sometimes continue in the naso-pharynx from two to even four days, causing a period of considerable distress to the patient.

The act of swallowing becomes more difficult. The small muscles participating in the act of deglutition are inflamed and impeded in their action by the swelling of the mucosa covering them. These are especially the glosso-palatini and pharyngo-palatini muscles, at times also the constrictores pharyngis and the levator veli palatini. Speaking also is painful and difficult, for the same reasons, and the voice has, in well-developed cases, a peculiar dead sound, and sometimes a nasal twang which has been thought to be characteristic of angina, and which, as well as the regurgitating of fluids through the nose, is due to the functional inactivity of the soft palate.

The feeling of burning and dryness in the throat disappears soon, when the secretion, often as early as during the first day, makes its appearance. This secretion consists of a grayish, viscid mucus, sooner or later to be followed by a genuine muco-purulent secretion. It is either expectorated or, in the superior pharyngitis, discharged through the nose or swallowed; and it may by running down the pharyngeal wall, or by gathering during the night, cause even retching and vomiting. It also is apt to cause a peculiar, offensive breath, occasionally noticeable in the morning. If the larynx is affected by contiguity, or if secretion collects in or about the larynx, hoarseness and a hacking cough are present. Occasionally neuralgic pains are complained of, as pain in the tympanum, conveyed, according to Lennox Browne,[2] to Jacobson's nerve along the main trunk of the glosso-pharyngeal nerve; and also facial neuralgia (Bosworth) and intense lancinating pains in the eyeball (John N. Mackenzie).

The local symptoms are the following. The mucous membrane of the soft palate, and frequently also of the pharynx, becomes deeper in color, from a slight flush to a deep scarlet red. In the course of the affection it often becomes rough, of a velvet-like appearance, and sometimes, though not often, small, superficial erosions may be seen; the hyperæmia may be intense, and occasionally dilated blood-vessels can be distinguished. Later on the swelling of the mucosa sets in, which consists of a serous transudation and may develop into a typical œdema. Sometimes the uvula is drawn to one side, and the whole soft palate is in a paretic condition, responding but slowly and inaccurately during phonation; and even a true paralysis of the soft palate has been observed in rare cases. Hyperæsthesia of the mucosa is often very pronounced.

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[1] A Treatise on Diseases of the Nose and Throat, New York, 1889, vol. i. p. 508.

[2] The Throat and its Diseases, American edition, Philadelphia, 1887, p. 166.

The course of the disease is mostly short, resolution in from four to eight days being the usual outcome. Mild cases may be limited to a single day or two. The fever, even if high in the beginning, decreases soon, morning remissions to normal temperature occurring often as early as twenty-four hours after a temperature of 104° and above has been reached. There is, however, a danger that the acute catarrhal form will continue into the phlegmonous form, and also that the œdema may descend with great rapidity to the larynx. J. H. Bryan[1] has collected the reports of ninety-six cases of acute œdema of the larynx, of which four were preceded by acute pharyngitis.

In a number of instances, after the main symptoms of a pharyngitis have subsided, *restitutio ad integrum* does not take place, either for lack of treatment or for other reasons. There remains a degree of congestion, and sometimes also a scanty tenacious discharge. The patient experiences no further discomfort, but a certain vulnerability is present, relapses occur after slight exposures, and there is a tendency towards a permanency of these conditions, terminable in a subacute and eventually chronic form of pharyngitis.

Pathological Anatomy.—This does not differ from that of catarrhal inflammation of other mucous membranes,—viz., active hyperæmia, produced by engorgement of blood-vessels, stasis, round-cell infiltration of the mucosa, serous infiltration of the submucosa, pus-corpuscles, epithelial cells, and micrococci in the secretion.

Treatment.—If a case of acute pharyngitis presents itself early it is always advisable to try to abort it. The patient should be kept in a warm but not overheated room, and if it is a child preferably in bed, and the atmosphere should be kept pure and moist. The time-honored practice of giving quinine in large doses in the beginning of a cold, and opium in smaller ones, is still recommended by good authorities. Dover's powder, repeated frequently in small doses, is a favorite prescription for this purpose. Although I am not prepared to deny the efficacy of this régime, I am not in the habit of using it, having seen just as good results without it as with it. But the first thing to be done is to stimulate the diaphoretic action of the skin in the outset, and good results may be looked for if it is done early. It is generally sufficient to give hot aromatic drinks in large quantities, and have the patient well covered. Hot alcoholic drinks, whiskey toddy, etc., also hot lemonade, are in common use in this country. A good old-fashioned steaming hot foot-bath, preferably with a little ground mustard added to it, is one of the home remedies not to be underestimated. Turkish baths, or vapor baths at home, are recommended for the same purpose, but are somewhat risky on account of the subsequent exposure. At any rate, a good diaphoresis, even if it do not abort the attack, is often followed by decided relief to the patient. Strict attention must always be paid to the

[1] Acute Œdema of the Larynx, etc., Medical News, Philadelphia, February 6, 1892.

bowels, and the least tendency to constipation should receive immediate attention. The mercurials, either calomel or blue mass, given in the evening, and followed in the morning by one of the milder bitter waters, have been long in common use for the constipation accompanying inflammatory conditions of this kind, and are still very largely depended upon. However, anything that will relieve the coprostasis so commonly found in these affections is satisfactory. My habit has been of late to use the fluid extract of cascara sagrada in doses of from fifteen to forty drops at bedtime, to be repeated if necessary in the morning, and the results have been satisfactory.

The fever very seldom requires special attention. If it is necessary to do anything in this respect, one of the antipyretics, preferably phenacetin, may be given, the dose to be regulated according to the severity of the case and the age of the patient. The dryness of the first stage is in many cases more troublesome than the pain; and relief is promptly afforded by pilocarpine hydrochlorate in doses of one-tenth, one-sixth, to one-quarter grain, given three times a day, supplemented by such local applications as will be referred to below. The pain, the local as well as the neuralgic, requires sometimes special attention. This is noticeably the case in acute rhinopharyngitis, and in those forms apparently associated with a rheumatic diathesis. It is a good rule never to give morphine in any of the acute inflammations of the upper air-tract, at least not in sleep-producing doses, and certainly not in children. Phenacetin and antipyrin, in doses of from five to ten grains, repeated as often as necessary, will be generally sufficient. Aconite, in the form of tincture of aconite, has been used universally since Ringer's[1] and Bartholow's[2] recommendation of it, and is, indeed, exceedingly valuable not only for relieving pain, neuralgic and otherwise, but also for reducing the temperature and lowering the arterial tension. In children's practice, it has, in fact, been employed more than any other remedy in acute inflammation of the upper respiratory tract. Bartholow recommends to give it in from one-half-drop to one-drop doses every half-hour until an impression is made on the fever movement, and then every hour or two. It is also very conveniently given in tablet triturates of which each contains one-half or one drop. Bosworth,[3] referring to the pain in acute naso-pharyngitis, is very outspoken in his praise of Duquesnel's aconitine for this symptom. He recommends giving it (conveniently in the form of tablet triturates) in doses of gr. $\frac{1}{500}$ every hour, "until the pain is relieved, or the constitutional effect of the drug is manifested, as shown by numbness and tingling about the fauces or lips, vertigo, or fainting." Of course, considerable care must be exercised in using so powerful a drug. This author has not only seen prompt action from this drug in relieving pain, but thinks also that it has a beneficial effect on the inflammatory process.

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[1] A Handbook of Therapeutics, New York, 1879, p. 425.

[2] A Practical Treatise on Materia Medica, New York, 1887, p. 599.

[3] Op. cit., vol. i. p. 513.

In 1887, in a paper[1] read before the Cincinnati Academy of Medicine, I called attention to the fact that salol is a valuable remedy in relieving the pain in acute affections of the throat of whatever kind. Since that time my observations have been confirmed by Capart and Gouguenheim,[2] and especially by Jonathan Wright, of Brooklyn. The latter author[3] reported fifty well-observed cases of acute tonsillitis and pharyngitis, in the overwhelming majority of which the results were exceedingly satisfactory, showing that salol relieves pain in anginas of any kind. The dose of salol in such cases is from ten to fifteen grains, four to six times a day. It may be given safely to children, the dose to be reduced according to the age, to from two and one-half to ten grains.

The local treatment must in the beginning avoid every irritation of the hyperæsthetic mucous membrane. Sometimes it is possible to reduce the inflammation by a cold pack, or a Leiter coil with cold water, around the neck, allowing, at the same time, small pieces of ice to melt in the mouth. The local reduction of temperature frequently shortens the pathological process, and often relieves the pain quite efficiently. If these beneficial effects are not soon obtained, or when a more copious secretion makes its appearance, heat must take the place of cold. Fomentations, and gargling with hot water, frequently repeated, are generally grateful to the patient. Instead of plain hot water, hot aromatic infusions,—*e.g.*, chamomile tea,—or hot milk (in children), or hot claret, may be used to advantage. Gargles of borax, bicarbonate of sodium, chlorate of potassium, glycerite of tannin, sulphate of zinc, etc., either alone or in combinations, all in two-per-cent. solutions, to which any of the mild antiseptics may be added, are frequently prescribed.[4] None of these remedies, however, have any specific action, as has been thought of chlorate of potassium ; and this latter drug should never be given internally, on account of its toxic effects. Astringents, as gargles or as topical applications, must not be used on an acutely-inflamed mucous membrane during the first stage. Especially contra-indicated are strong solutions of nitrate of silver, so commonly used in former times in the earliest stages of acute pharyngitis.

Inhalations of vapor, either of hot, steaming water alone, or of hot water to which some tincture of benzoin (one drachm to a pint) has been

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[1] Salol: with Report on the Use of Salol in Affections of the Throat, etc., Cincinnati Lancet Clinic, December 10, 1887.

[2] Annales des Maladies de l'Oreille, etc., November 9, 1889.

[3] Salol in Acute Tonsillitis and Pharyngitis, American Journal of the Medical Sciences, August, 1890.

[4] It may be stated, however, that gargling should not be insisted upon when it is very painful, on account of the necessary action of the muscles involved in the inflammatory process. The liquid, in gargling, can at best reach only the soft palate and the faucial region. Gargling, to be beneficial, should be practised with the head reclining, thus allowing the liquid to run back as far as possible, the gargling sound—*i.e.*, the sound caused by the expulsion of air through the liquid—being unnecessary. Most of the gargles are best prepared with equal parts of water and glycerin.

added, are very soothing in this stage. They may be made with any of the inhalers found in the instrument-makers' shops; or a cup, a tin pail, or any other vessel filled with hot water (140° to 160° F.) will answer. The patient inhales through an ordinary kitchen funnel or a paper cone, the large end of which covers the receptacle. If the post-nasal space is principally affected, one may use a post-nasal spray with an alkaline solution,—for instance, Dobell's solution. Very soothing has proved in my hands a mixture of one-half teaspoonful of sodii bicarbonas dissolved in a pint of warm water to which are added ten to fifteen drops of tincture of benzoin. This mixture is to be used very gently, once or twice a day, with a post-nasal syringe. Also warm water to which a little glycerin has been added, warm sage-tea, or warm milk, used in the same manner, is very grateful to the patient. In small children whose nasal mucosa is swollen one may safely use warm milk, injecting it into the nose, or dropping it in with a medicine-dropper.

I fully agree with Bosworth[1] that medicated lozenges are, as a rule, of no great value in the treatment of this affection. The local effect is very limited, and any constitutional effect may be obtained by remedies administered in a more convenient form. However, as Lefferts[2] says, they may be considered a useful adjuvant to other local treatment, and they enjoy considerable reputation among physicians, as well as among the laity. The lozenges are usually made with a fruit-paste; those of Bosworth are made with extract of liquorice. They are generally medicated with an astringent, sedative, stimulant, or antiseptic,—benzoic acid, carbolic acid, tannin, guaiacum, cubebs, lactucarium, iodoform, extract of krameria, and extract of opium being most frequently used. If gargling is too painful, spraying the throat, either with a hand-ball atomizer or with the steam atomizer, may be resorted to. The remedies recommended above for gargles can be employed for sprays. Where a steam atomizer is used the strength of the solution must be four per cent., as the process of atomization by steam reduces the strength of the solution one-half. As soon as the secretion has appeared, astringents will greatly aid in promoting a prompt recovery. The best method is to apply them directly, by means of a curved cotton-carrier, to the pharynx and, if need be, to the naso-pharynx. In the latter case it must be borne in mind that the inflammation is generally universal, and that the application must be made thoroughly, though great care must be taken to do it very gently. Force should never be used to carry the cotton wad up between the tightly-drawn-up palate and the pharyngeal wall. The muscles must be allowed to relax, and then, with a quick movement, the applicator is to be carried up to the pharyngeal vault.

Of all local applications, I prefer two- to four-per-cent. solutions of

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[1] Op. cit., vol. ii. p. 35.

[2] A Pharmacopœia for the Treatment of Diseases of the Larynx, Pharynx, etc., New York, 1884, p. 61.

chloride of zinc in glycerin; alum, tannin, sulphate of zinc, chloride of iron, nitrate of silver, in two- to five-per-cent. solutions,—all, with the exception of argentic nitrate, made with equal parts of water and glycerin,—are also very useful. The rule is to begin always with the weaker solutions. Caustic applications and insufflations of powders are to be deprecated. Cocaine applications I do not recommend, as a rule. The relief they afford is of short duration, and the reduced calibre of the engorged blood-vessels is soon followed by relaxation, and, as Schroeder[1] justly remarks, "the reaction brings with it an aggravation of the patient's condition which can only be relieved by repeated applications." Still, under certain circumstances the local use of cocaine may be advisable, for instance, where intense swelling of the parts causes dyspnœa or exceedingly severe pain on every attempt at swallowing, preventing feeble patients from taking any nourishment at all. Unna and his followers have recommended ichthyol, locally as a gargle or spray, in one- to two-per-cent. solution, and internally in doses of from two to four grains three to five times a day.

Any ear-symptoms that present themselves must, of course, be attended to immediately. In this connection Wendt[2] very justly says, "The ear, especially, often requires immediate *timely* attention, which is of more value than any subsequent course of treatment." The inflation of the middle ear after Politzer's method should be practised upon the first indications, catheterization during the acute stage being always too painful and too irritating. If, in spite of this treatment, an accumulation of catarrhal or purulent secretion should take place in the tympanic cavity, paracentesis of the membrana tympani is indicated, and should be performed without delay.

Prophylaxis.—Acute pharyngitis could in many cases be avoided. We find, indeed, people who are seldom, if ever, subject to it, and others who, having been afflicted with it again and again, have lost the tendency to it by modifying their habits of living. A proper hygiene ought to begin in early life. Children who are brought up as hot-house plants are sure to be the most frequent sufferers from catarrhal inflammations of the upper air-passages. In such cases a reasonable hardening must be recommended. They should be given daily a cold sponge bath, or wrapped in a sheet wrung from cold water, to be followed immediately by vigorous friction of the skin with a rough towel. If the cold water is not well borne, moderately warm water will answer, to be followed, if possible, by a cold douche. However, this whole procedure must be adapted to circumstances, and sometimes carried out only by degrees. The neck, as a rule, should be washed every day with cold water, and not be wrapped in woollen and silken protectors whenever the children leave the house. It has also

[1] The Treatment of a Cold, New York Medical Record, January 30, 1892.

[2] Ziemssen's Cyclopædia of the Practice of Medicine, American edition, New York, vol. vii. p. 49.

been recommended to spray the neck every morning, on rising, with iced water.

Underwear should be a woollen fabric, not only in men, but also in women and children, consisting in winter of tightly-fitting garments from the neck down to the ankles. The change from heavy to light clothing must not be permitted too early in spring, when a few warm days are apt to be followed by chilly and cold ones. Beverley Robinson,[1] in his exhaustive chapter on the prophylaxis of acute coryza, insists also on the care of the feet, and very justly so, for, as is well known, many cases of acute pharyngitis have their origin in wet or chilled feet. Shoes should scarcely ever have thin soles for out-door wear, and for cold weather heavy double-soled shoes or cork-soled shoes are recommended. In wet weather impermeable shoes are necessary. No impediments to a free circulation of blood and unembarrassed respiration, in the form of tight lacing and tightly-fitting collars, ought to be permitted. Habitual constipation requires constant attention. The living-rooms must be of proper temperature and well ventilated. Avoidance of noxious influences, and active physical exercise, especially for those of sedentary habits, are absolutely necessary. Chronic affections of the naso-pharynx and nasal obstructions must be attended to.

SUBACUTE CATARRHAL PHARYNGITIS.

If, either from neglect or in spite of treatment, the acute inflammation does not quickly subside, or if the acute form changes into the subacute form, the local treatment must be carried out with stronger applications. Subacute catarrhal pharyngitis is not a special disease. The symptoms are more or less the same as in the acute form, only of less intensity. Actual pain is not present, but deglutition is often somewhat difficult. There may be a hacking cough; and, while the secretion is diminished, a very annoying retching sensation from the accumulation of mucus is complained of, which may, after awakening in the morning, even cause vomiting. The voice is often husky, or has a nasal twang, and is tired after little exertion; and the patients are frequently conscious that there is something the matter with their throats. Locally there are hyperæmia and swelling, which may be universal or circumscribed. In the latter case either the lateral parts of the pharynx, or the pharyngeal vault, or the soft palate, and here specially the uvula, alone are affected. The latter may be considerably thickened and elongated. If this condition is not relieved, some form of chronic pharyngitis will result.

The local treatment consists in the daily application of the pigments recommended for acute pharyngitis, only in stronger solutions (three to ten per cent.). An excellent pigment is a solution of iodine in glycerin (two to ten per cent.), made with a sufficient amount of iodide of potassium to insure solution. A few drops of carbolic acid (Mandl) may be added, or,

[1] A Practical Treatise on Nasal Catarrh and Allied Diseases, New York, 2d ed., p. 42.

as Schech[1] recommends, of oil of peppermint to improve the taste. It is well always to begin with the weaker solutions and make daily applications. Later on, when improvement begins, one application every other day, and finally twice a week, is sufficient. The general *régime* is the same as in the acute form; the bowels, especially, need attention; and smoking and chewing tobacco, indulgence in excesses, and undue exertion of the voice, are to be strictly prohibited.

ACUTE UVULITIS.

During an attack of acute catarrhal pharyngitis, as has been mentioned previously, as well as in other acute processes in the faucial region, the uvula may become involved. In such cases it is inflamed, enlarged in every diameter, and œdematous. It is, however, possible that the inflammation will be limited to the uvula alone, and that there will be no evidence of other changes. The causes are the same as those that lead to acute inflammation in general. A sudden exposure to cold is as yet considered one of the most frequent causes. Traumatism of any kind may produce this affection. Thus, J. Solis Cohen[2] relates a case where caustic applications caused an intense œdema of the uvula. The symptoms are sensation of a foreign body in the throat, pain during deglutition or at other times, and sometimes dyspnœa on account of the intense swelling. The diagnosis is easy: the uvula is swollen, enlarged, at times enormously, and is whitish and glistening, showing that there is an œdematous distention of the mucous membrane.

Treatment.—Hot gargles or ice are sometimes useful; but in most cases time is lost with them, as well as with astringent applications. Free and numerous scarifications give immediate relief by allowing the pent-up serum to escape. Bosworth[3] prefers puncturing (ten to twenty punctures) the whole uvula. Amputation of the uvula for acute œdema is probably rarely necessary, although it has been done in aggravated cases, giving complete relief in a short time.

PHLEGMONOUS PHARYNGITIS.

Synonymes.—Pharyngitis abscedens; peritonsillitis; peritonsillar abscess; quinsy.

Etiology.—Regarding the etiology of this disease, there can be no doubt in the light of our present knowledge of pathogenesis that it is of bacterial origin. It is asserted, however, that it may, like the acute catarrhal form, be caused also by taking cold,[4] especially in persons who have been previously reduced by disease or want of the necessaries of life;

[1] Die Krankheiten der Mundhöhle, des Rachens und der Nase, Leipzig und Wien, 1888, p. 138.

[2] Diseases of the Throat and Nasal Passages, 2d ed., New York, 1879, p. 220.

[3] Op. cit., vol. ii., 1892, p. 91.

[4] See pp. 250–251, with respect to "cold" as an etiological factor.

furthermore by traumatism, after operations, scalding, cauterizations (with chemical caustics or the galvano-cautery). It also occasionally accompanies acute infectious diseases, as typhoid fever, small-pox, and especially scarlet fever and measles; in these diseases, however, it is probably due to the invasion of the streptococcus pyogenes.[1] It certainly stands to reason that in a locality so constantly exposed to minor traumatisms the possibility exists of minute lesions of the upper epithelial layers of the mucosa where pathogenic germs, abundant as they are in the oral cavity,[2] may readily find an entrance and nidus for development. Some authors, especially Bosworth,[3] are inclined to think that rheumatism plays an important *rôle* in the production of this disease. I could not convince myself from my own observations that this occurs at all frequently.

Symptoms.—The disease begins with violent symptoms, headache, and a general feeling of malaise, in the midst of good health. An initial chill may be observed, and the temperature rises considerably; the pulse is rapid, and delirium is not unfrequently an early symptom, especially in children. Deglutition is exceedingly painful, the pain and obstruction increasing rapidly, so that finally even liquids are refused. Schech[4] says that phlegmon of the pharynx is, next to tuberculosis, the most painful of all throat-affections. The throat, dry at first, is soon filled with a thick, tenacious, and offensive secretion; salivation follows, the tongue becomes coated, and the fetor of the breath is great. Complications on the part of the middle ear (violent earache, etc.) are more frequent than in catarrhal pharyngitis. The respiration may be seriously embarrassed, and even dyspnœa, especially while the patient is sleeping, is at this stage not uncommon. Every attempt at swallowing is characterized by a contortion of the face and is avoided as much as possible, and liquids are regurgitated on account of the swollen and paralytic condition of the soft palate. The patients become rapidly reduced from loss of sleep, pain, and want of nutrition. The voice has a nasal twang, and is indistinct; the mouth cannot be opened, by reason of the extension of the inflammatory process to the tissues surrounding the maxillary articulation, and examination becomes very difficult. Sometimes the mouth cannot be entirely closed, the lower jaw being kept immovable. The submaxillary and cervical glands are generally swollen and exceedingly painful.

Local examination shows the soft palate to be of a deep purple hue, and highly œdematous, so that the fauces are frequently entirely obliterated. The enormous swelling renders the soft palate entirely immovable; the secretion is muco-purulent, later on purulent, and sometimes tinged with

[1] I cannot agree with those authors who consider the pharyngitis accompanying scarlet fever as a disease *sui generis*. It is nothing but one of the symptomatic expressions of this disease, and may manifest itself in the simple or in the phlegmonous form, but does not merit a name of its own, nor separate consideration, nor special treatment.

[2] W. D. Miller: The Human Mouth as a Focus of Infection, Lancet, August 15, 1891.

[3] Op. cit., vol. ii. p. 106.

[4] Op. cit., p. 144.

blood, and ecchymoses and hemorrhages into the mucosa are sometimes seen. The tonsils may participate in the phlegmonous process; but the inflammation of the tonsils is generally superficial, though they may be greatly enlarged. Principally affected is the peritonsillar tissue. It is in this location that suppuration generally takes place. This locality is called by Chiari[1] the spatium pharyngo-maxillare, and is bounded by the tonsils, the internal pterygoid muscle, and the palatine arches. The swelling may extend into the post-nasal space, causing a complete obstruction between the nose and the throat, and may also descend towards the larynx, producing œdema of the latter and threatening dyspnœa.

Course.—The duration of the disease is from four to fourteen days. Either absorption of the infiltration takes place, and the symptoms subside gradually, the affected parts returning to their normal condition, or suppuration sets in, and with it increases the severity of the symptoms. This is the most trying time for patient and physician, when every day adds to the pain and difficulty, until the pus escapes either after operative measures or spontaneously. The spontaneous bursting of the abscess takes place ordinarily through the anterior palatine arch, and may occur after coughing or swallowing, or during sleep. When this last happens there is danger of the pus making its way into the trachea. It is not always possible to see the spot where the pus has forced its way to the surface. In such cases discharge may have taken place through the posterior arch. At all events, after the escape of pus, improvement is rapid; refreshing sleep is the first relief, and convalescence progresses generally favorably.

Relapses, however, are not so very rare; or the other side may also become affected, and then convalescence is protracted and tedious. There are still other and greater dangers. The pus may burrow into the cellular tissues of the throat, into the œsophagus, into the mediastinum, and even towards the external parts of the neck, causing abscesses below the deeper cervical fascia, in the submaxillary glands, and in the muscles of the tongue; or the process may lead to ulceration of great blood-vessels, as, when originating in the peri-tonsillar tissue, to erosion of the carotid, and even general septicæmia may be the outcome, in all of which cases the prognosis is necessarily very unfavorable.

Treatment.—A good, nourishing, and stimulating diet (milk, beef-broth, peptonized foods, whiskey, good wine) must be given from the beginning. Lennox Browne[2] recommends that tonics, as iron, chlorate of potassium, and bark, be given from the start. Others recommend quinine. If the patients persist in refusing to swallow any food whatever,—and this is most frequently the case with children,—rectal alimentation must be resorted to. The bowels need from the beginning careful attention, costiveness being very common and troublesome. For the purpose of aborting the attack

[1] Wiener Klinische Wochenschrift, 1889, No. 43.

[2] Op. cit., p. 172.

Morell Mackenzie[1] has recommended tincture of guaiac, or lozenges containing two grains of resin guaiac, which latter have enjoyed great reputation, though it has never been proved with certainty that this drug can cut short an attack already started. Aconite, in drop doses, is also frequently given (as in catarrhal pharyngitis); and Bosworth[2] believes that it is possible to abort an attack within the first twenty-four hours by giving ten grains of quinine and one grain of opium, administering a hot foot-bath, evacuating the bowels by fifteen grains of calomel, to be followed by a saline purgative and giving sodii salicylas, and applying locally to the throat sodii bicarbonas. Helbing[3] has of late highly recommended rubbing of the skin over the corresponding site, to wit, below the angle of the inferior maxilla, with a cotton wad moistened with three or four drops of croton oil. If this were done the first day, he succeeded in aborting the attack. The eczematous inflammation resulting from the application heals in five to eight days, and is not so troublesome as the prospect of having to go through a well-developed attack of phlegmonous pharyngitis.

The object of the local treatment is to reduce the inflammation and to alleviate the pain. For the first purpose cold, in the form of the ice pack, or Leiter coil with cold water, around the neck, also gargles of ice-water, sucking of cracked ice, etc., are usually employed. While they may be tried in the beginning, I should not attach too much importance to them, for I believe, with Jurasz,[4] that they will rarely, if ever, abort an attack, and that the relief produced by them is of but short duration. It is much better to begin early with hot fomentations around the neck, hot gargles, and hot inhalations, in order to accelerate suppuration and to shorten in this way the duration of the disease.

The internal administration of morphine to relieve the pain is out of the question in an affection where dyspnœa is threatening. Great relief has followed the administration of salol[5] in large doses. Antipyrin and phenacetin, the latter also combined with salol, give good results and have the additional advantage of reducing the elevated temperature. Painting the inflamed parts with cocaine in five- to ten-per-cent. solutions relieves the pain, though for a short time only, but often sufficiently to allow the patient to take some food. B. Fraenkel[6] recommends the injection of cocaine into the inflamed parts as very efficient to relieve the pain. A five-per-cent. solution of menthol in albolene, or a mixture of ether fifteen parts, chloroform ten parts, and menthol one part, applied either with the cotton carrier or as a spray, has afforded temporary but decided relief.

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[1] Diseases of the Throat and Nose, American edition, Philadelphia, 1880, vol. i.

[2] Op. cit., 1892, vol. ii. p. 120 *et seq.*

[3] Internationales Centralblatt für Laryngologie, Rhinologie, etc., 1890, vol. vi. p. 564.

[4] Die Krankheiten der oberen Luftwege, Heidelberg, 1891, p. 127.

[5] See p. 256.

[6] Berliner Klinische Wochenschrift, 1886, Nos. 17 and 18.

Any middle-ear complication must, of course, be treated according to the indications as set forth elsewhere in this System.

When an abscess has formed, a free incision is indicated, as relieving the distressing symptoms almost instantaneously. A bulging forward of the swollen tissues indicates at times the spot where the incision must be made. Frequently the presence of pus cannot be determined so easily, but must be diagnosticated from all other conditions combined. However, with the aid of the following method, recommended by Stoerk,[1] fluctuation may sometimes be discovered quite early. The physician puts the fingers of one hand externally under the angle of the lower jaw, pressing the skin and all the tissues inwardly, while the index-finger of the other hand moves slowly over the infiltrated parts, beginning high up on the soft palate and sliding downward towards the tongue. When the two index-fingers moving and pressing towards each other meet in a spot where the tissues offer less resistance, imparting a doughy sensation, this is the point for the incision. This little operation is done with a sharp-pointed knife, the parts having been previously cocainized, if possible. The so-called pharyngeal knife may be used, having a short blade and a long steel shank with rounded edges to prevent injury to the lips or tongue. However, any bistoury will do, the larger portion of the blade having been previously wrapped with narrow strips of adhesive plaster or of tissue-paper, one-half or three-quarters of an inch of the blade being left uncovered. The knife must be introduced flat, with the cutting edge towards the median line, the tongue being firmly pressed down with a tongue-depressor. The knife is then plunged into the spot previously decided upon, and the opening, upon withdrawal, enlarged towards the median line. In this way all danger of injuring any of the great blood-vessels is avoided. Stoerk[2] recommends that the incision be made parallel to the palatine arches, and that a finger be introduced into the opening,—certainly a very painful procedure. Schech[3] introduced a grooved director to facilitate the escape of pus; but even this may be omitted if the incision is large and deep enough. Sometimes it is advisable to make several incisions, or additional incisions during the following days may become necessary. After the operation hot gargles, frequently repeated, are to be prescribed.

But even if pus cannot be detected, and the symptoms are very severe, free and multiple incisions are of great value. In fact, it is not advisable to lose too much time by waiting for the manifestations of pus. Some authors advise against these incisions, as liable to cause sloughing, and affording, at the best, but temporary relief. However, in most cases suppuration follows soon in the track of the incision; and the depletion of the engorged blood-vessels acts very beneficially upon the whole process, pro-

[1] Klinik der Krankheiten des Kehlkopfs, der Nase und des Rachens, Stuttgart, 1880, p. 109.

[2] Op. cit., p. 110.

[3] Op. cit., p. 147.

vided the incisions have been made generously. It must be added, however, that not in all cases do these benefits follow the operation; that, on the contrary, the disease sometimes progresses for the worse, as if nothing had been done, and that in such cases patients and friends are inclined to hold the incisions responsible for this aggravation of symptoms, on the principle of *post hoc, ergo propter hoc.*

If dyspnœa be severe, tonsillotomy may become necessary, in case the fauces are the seat of the obstruction. If, however, the dyspnœa is due to involvement of the larynx, and becomes dangerous, tracheotomy must be resorted to; but before doing this scarifications of the swollen tissues and hypodermic injections of pilocarpine in doses of one-tenth to one-quarter of a grain for adults may be tried. Intubation is probably of minor value in such cases, there being another obstacle to respiration above the tube in the faucial region.

ACUTE INFECTIOUS PHLEGMONOUS PHARYNGITIS.

Acute infectious phlegmonous pharyngitis, or primary acute infectious phlegmon of the pharynx, is the somewhat formidable name of a disease described as a new affection in 1888 by Senator,[1] of Berlin. The disease called heretofore phlegmon of the pharynx (peritonsillitis abscedens), described in the previous section, is harmless compared with this most disastrous affection. Otherwise one might look upon these two diseases as different only in degree. Sonnenburg[2] is, indeed, of the opinion that, under certain conditions, an acute septic phlegmon may develop out of a common phlegmon of the pharynx. Yet a number of observers have confirmed Senator's observations and agreed with him regarding the distinctive features of this affection, while other no less competent observers have insisted that this disease was known long ago and well described, though under different names. Virchow[3] looks upon it as identical with the diffuse phlegmonous processes occurring in the mucous membranes in other parts of the body. Guttmann[4] considers it identical with erysipelas of the pharynx. F. Semon[5] is also of the opinion that all these processes, including the so-called angina Ludovici, are the same affection, caused by the same *materies morbi*, differing only in virulence. The name placed at the head of this section has, however, been adopted by many writers, though I am inclined to believe that such a name as pharyngitis phlegmonosa diffusa, or cellulitis phlegmonosa pharyngis, would be more expressive.

Symptomatology.—A characteristic of this disease is that it always attacks persons in the midst of good health. One of the earliest symptoms is sore throat. Fever is present from the beginning, and continues through the whole process; but it is a peculiar feature of this disease that the fever is

[1] Berliner Klinische Wochenschrift, 1888, p. 77.
[2] Ibid., p. 114. [3] Ibid., p. 112. [4] Ibid.
[5] Verhandlungen des X. Internationalen Medicinischen Congress, Berlin, 1892, p. 185.

generally of a moderate degree, and the temperature seldom rises to 103° F. Hoarseness and aphonia are often present, and dyspnœa is not excluded. The submaxillary glands are swollen; the pharyngeal mucosa, and later also the laryngeal, are intensely congested, and sometimes œdematous. Localized suppuration is usually not detectable. The prostration is great, and the general condition is not unlike that of typhoid-fever patients. In some cases the patients become comatose towards the end. The urine always contains albumin. Death, as a rule, ensues suddenly, within a few days after the beginning of the disease.

The pathology of this affection, as learned from the limited number of recorded autopsies, is as follows: there is a diffuse purulent infiltration of the deeper parts of the pharyngeal mucosa, continuing from there to the larynx, trachea, and secondarily to other parts of the body, *e.g.*, the mucosa of the stomach. The lymphatic glands of the neck are swollen, and the kidneys are sometimes enlarged, as is also the spleen. No specific micro-organisms could be cultivated from the affected organs.

The diagnosis, considering the gravity of the symptoms, with the absence of everything pointing towards diphtheria, cannot be very difficult. The prognosis is, of course, very bad, almost inevitably fatal.

The therapy, as can be readily understood, is very limited. The disease is undoubtedly of bacterial origin, with an intense general infection of the whole system from the outset, and therefore local treatment can be of but little avail. We may try to relieve the most prominent symptoms. If asphyxia is imminent, tracheotomy may be resorted to, although nothing must be expected from it except some temporary relief.

PHARYNGITIS seu ANGINA ULCEROSA.

Synonymes.—Ulcerated sore throat; angina nosocomii.

Etiology.—The disease is certainly of bacterial origin, though the specific micro-organism has not yet been recognized. Persons in good health may be attacked by it; but people previously weakened by other diseases, or by want of food and other causes, seem to be more disposed to it, as also persons who have been exposed to the continued influence of vitiated air, sewer-gas, etc., and such as come in contact with decaying organic matter. It has been found frequently in hospital nurses (hospital sore throat), in pathologists, and, according to Mackenzie,[1] in young medical students who devote a great deal of their time to the dissecting-room.

Course.—Sore throat is the first symptom. This symptom increases rapidly, soon rendering swallowing impossible. The temperature rises as high as 105° F.; general prostration is pronounced. The breath is offensive; the tongue is coated and dry, and its back often covered with grayish- or greenish-looking masses. The glands under the angle of the jaw are in most cases enlarged and tender. Of the tonsils generally only one is en-

[1] Diseases of the Throat and Nose, American edition, Philadelphia, 1880, vol. i. p. 42.

larged, and sometimes considerably so, and is covered with a membrane-like deposit of yellowish or greenish color, which can be wiped off if some force be used. Then it is seen that the deposit covered a large ulcer or several small ones, which sometimes, though rarely, become confluent; and the crypts of the tonsils are full of similar putrid masses. Small ulcers may also be on the soft palate, which in all cases is acutely inflamed and at times is œdematous. The disease is of but short duration, recovery taking place in from six to fourteen days. The prognosis is always favorable, though recurrences are not uncommon.

Pathology.—There is an ulceration of the superficial layers of the mucosa and of the lymphoid follicles, causing a fibrinous exudation, mixed with epithelial and pus cells, detritus, and numberless micrococci, to be deposited on the surface of the tonsils.

Treatment.—The patient should always be removed from all surroundings that may have been the cause of his ailment.[1] It is good policy to give, from the beginning, tonics, as iron, quinine, wine, whiskey, and as much nutritious food as the patient will take. The fever must be treated on general principles; and the constipation almost always present requires some mild laxative. Locally, disinfectant gargles are to be used, especially of permanganate of potassium, chlorate of potassium, or carbolic acid. McBride[2] recommends painting the ulcerated surface with an oily solution (twenty per cent.) of menthol; or, if this or the gargling be too painful, a spray of bichloride of mercury (one to two-thousand). A coarse spray of peroxide of hydrogen (fifteen volumes per cent.) proved in my hands the most beneficial application. This must be used every hour, and applied in a very forcible manner and continued for several minutes. The patients may be allowed to suck pieces of ice; but often hot water as a mouth-wash is more agreeable to them, especially if it is flavored with some thymol, oil of wintergreen, or oil of peppermint.

As soon as the acute inflammation has somewhat subsided and the ulcers look cleaner, the diseased tissues require local treatment. A few applications of tincture of iodine—often, indeed, a single one—will work wonders. A suitably-curved probe or cotton carrier, wrapped tightly with cotton, is dipped into the undiluted or diluted (one-half with alcohol) tincture and introduced into the diseased follicles. Any constitutional weakness remaining must be treated according to the indications.

[1] Not long ago I saw, in consultation, a young lady, twenty-two years of age, who had a typical ulcerous angina. She had three relapses one after another. The house in which she lived was known for its poor sewer-connections. One of the sewer-vents opened directly below the window of the patient's bedroom, so that frequently pestiferous odors could be perceived rising from the badly-located opening. After the third relapse, removal of the patient to healthier surroundings was insisted upon; after which she made an uninterrupted recovery.

[2] Diseases of the Throat, Nose, and Ear, American edition, Philadelphia, 1892, p. 15.

GANGRENOUS PHARYNGITIS.

This disease is, fortunately, very rare. It is seen as a secondary affection during scarlet fever, diphtheria, measles, typhoid fever, small-pox, ordinary phlegmonous pharyngitis, and following traumatisms and operations. There is also a primary gangrenous sore throat, which is still rarer. It is essentially a septicæmic process. The onset is very sudden, no epidemic influences prevailing, and no causes being ascertainable in individual cases. According to Trousseau,[1] who (in addition to Gubler[2]) has put on record the first well-described cases, this disease has "as its fundamental character mortification of the mucous membrane of the pharynx, which resembles gangrene of the mouth, appears suddenly, and sometimes extends to the cheeks and the lips."

The disease begins with sore throat, which increases rapidly in intensity. Soon black or greenish-black spots make their appearance upon the soft palate, the tonsils, and the posterior wall of the pharynx, and the mucosa around these gangrenous parts is of a livid red color. The breath soon becomes so terribly fetid that, once smelled, its odor is said never to be forgotten. It has sometimes been compared to the odor of fæces, and is considered characteristic of this affection. Cervical and submaxillary glands may or may not be swollen. The temperature is high in the beginning, but later on becomes subnormal. The prostration increases rapidly; laryngeal and pulmonary complications may set in; gastric and intestinal disturbances of the gravest character are liable to result from the swallowing of the putrid masses; and the patients die mostly from syncope. However, a few cases of recovery are on record.

The treatment must necessarily be directed against the general infection. Stimulating medication of the most approved kind must be resorted to from the beginning, and a nutritious concentrated food must be given at frequent intervals, if necessary, per rectum. Locally, cleansing and disinfecting applications should be made as thoroughly as possible; but a correct diagnosis will, from the start, exclude any great hope of recovery.

ERYSIPELATOUS PHARYNGITIS—ERYSIPELAS OF THE PHARYNX.

Erysipelas of the pharynx is not a very rare occurrence. In fact, Eichhorst[3] says that erysipelas occurs more frequently in the pharynx than in any other of the mucous membranes of the body. The etiology and pathology are the same as those of erysipelas in other parts of the body. The disease is an infectious one, caused by the streptococci discovered by Fehleisen. This fact subverts all former theories as to the existence of a traumatic and an idiopathic erysipelas, the latter being mainly

[1] Lectures on Clinical Medicine, Philadelphia, 1873, vol. i. p. 328.

[2] Archives Générales de Médecine, 1857, vol. ix.

[3] Handbook of Practical Medicine, New York, 1886, vol. iv. p. 128.

the result of a "cold." As a matter of fact, F. Cardone[1] has reported four cases where the streptococcus erysipelatosus was found and cultivated and rabbits were inoculated with the pure culture with positive results. As to its relation to primary acute infectious phlegmon of the pharynx, referred to above, it must not be forgotten that the phlegmon is a purulent infiltration of the deeper structures, while erysipelas is a surface process, having no tendency towards cellular infiltration.

Course.—Generally the affection is secondary, spreading by contiguity from any region of the head along the mucous tracts of the nose, mouth, or ear, the first being apparently a favorite location of the affection. There is, however, sufficient clinical evidence that an erysipelas of the pharynx may follow an attack in a distant part of the body. On the other hand, erysipelas of the pharynx may also develop primarily and gradually spread to adjacent integument. This is a fact well known and understood long ago. The pharynx, that much used and much abused union of the respiratory and digestive tracts, the base of the tongue, the soft palate, and the tonsils, favor, without doubt, the entrance of the pathogenic streptococci by reason of the constant and unavoidable minute lesions of their mucosa. This may also be said of the small openings normally existing in the epithelial covering of the tonsils. Gerhardt,[2] in an exhaustive essay on this subject, says that the pharynx is no doubt frequently the gate of admission for the streptococci, and that what at first appears to be a common pharyngitis is not unfrequently followed by an erysipelas of the face. The local affection may end in recovery in consequence of a gradual resolution; it may, as stated, extend to the face, or it may extend downward to the larynx, the bronchial tubes, and even the lungs, giving rise to the most serious complications.

Symptoms.—There may be a prodromal stage of from three to four days, with high fever, without any local symptoms in the throat. Otherwise, the latter are those of a very acute catarrhal pharyngitis. Pain is great, and the throat feels intensely hot and dry. There is great hyperæmia of the mucosa, with swelling, and sometimes œdema; at times blisters, filled with serum or pus, appear. The cervical and submaxillary glands are usually swollen, though generally in a slight degree (Wagner); and salivation is frequently present. Very severe are the general symptoms, as fever, prostration, etc.

Ordinarily the disease lasts from a few days to a week. The diagnosis is in the beginning somewhat difficult, except, of course, in cases where an external erysipelas preceded the affection, or where it is possible to find Fehleisen's streptococcus in the affected parts. The prognosis is doubtful, though generally good; certainly grave, however, when the affection is of a descending character.

The treatment, as regards the general symptoms, is the same as for

[1] Giornale Internazionale di Scienza Medica, April, 1888.

[2] Ueber Rothlauf des Rachens, Charité-Annalen, 1887, Bd. xii. p. 208.

erysipelas in general, consisting chiefly in the liberal use of stimulants, and in the exhibition of antipyretics whenever the temperature is very high; locally, ice applications and the swallowing of ice, with alkaline and sedative sprays. Local applications of menthol and cocaine are often indispensable to relieve the pain. The use of morphine is to be deprecated.[1] Daly[2] and others have recommended to apply to the neck large mustard poultices, which would by their revulsive action tend to change the internal erysipelas into an external one. If œdema of the larynx ensues, hypodermic injections of pilocarpine hydrochlorate from one-sixth to one-third grain, and scarifications of the œdematous tissues, may be tried. If these fail, tracheotomy must be resorted to.

PHARYNGITIS HERPETICA.

Synonymes.—Herpes of the pharynx; common membranous sore throat; aphthous sore throat; (benign) croupous angina.

This affection is comparatively rare; it is ordinarily preceded by a general feeling of illness and by fever from two to three days, during which time gastric disturbances may have simulated an entirely different ailment. All of a sudden the patient complains of sore throat of varying intensity. The submaxillary glands may be moderately swollen, pain may radiate to the nasal fossæ or the Eustachian tubes, and salivation is frequently profuse. At this stage the physician usually finds a white, membranous deposit on the soft palate and uvula, sometimes also on the tonsils, which latter are in all cases somewhat enlarged and inflamed. The affection is generally unilateral, but bilateral attacks have also been observed. Left to itself, it usually heals in from four to fourteen days. However, relapses may occur again and again, and the disease may become chronic. More serious sequelæ have also been observed, as ulcerous sore throat with perforation of the palate, extension of the membranes into the larynx, and genuine diphtheria developing out of common membranous sore throat (Trousseau).[3]

The membrane is, however, not the only essential feature of this affection, though it has contributed to give it one of its names. If we could see the throat in the initial stages, we might discover small vesicular eruptions, arranged in groups, on the soft palate, and sometimes on the tonsils. These vesicles soon become excoriated, to be covered by a plastic exudation of whitish color, consisting microscopically of a fibrinous net-work, in the meshes of which are embedded innumerable white, and very few red, blood-corpuscles, and epithelial detritus. These membranes are but loosely adherent, and may be pulled off readily with the forceps; in fact, sometimes, when loosened by themselves, they hang suspended from the soft palate like curtains. The vesicular stage, according to J. Solis Cohen,[4] is

[1] See p. 255, on the use of morphine in throat-affections.

[2] Transactions of the Ninth International Medical Congress, Washington, D.C., 1887, vol. iv. p. 70.

[3] Op. cit., p. 322.

[4] Common Membranous Sore Throat, New York Medical Journal, March 23, 1889.

very rarely seen; so rarely, indeed, that its existence has by some been denied. At the outset of the affection there is frequently coexistent an herpetic eruption on the lips, the inner surface of the cheeks, and the tongue, while during the course of the pharyngeal affection eruptions of herpes may appear on the nose, the laryngeal mucosa, the prepuce, and the vulva. Sometimes after rupture of the vesicles a membrane does not form, and there remain small white or yellowish-white ulcers, which may be either circumscribed or confluent. This is the condition which, no doubt, has given rise to the synonyme of aphthous sore throat; and this latter designation gains significance in view of the statement made by Forchheimer,[1] that aphthæ in the mouth of children is probably nothing more nor less than an eruption of herpes.

Etiology.—A chill after exposure to cold is thought by many to be a causative factor. J. Solis Cohen[2] mentions as predisposing causes the influences of inefficient house-drainage and of contact with putrefying matter. The disease is also said to precede or to accompany many febrile conditions; and disturbances of menstruation have at times been held responsible for it.[3] Some authors[4] contend that the neuropathic origin of herpetic pharyngitis is well established, and consider it a herpes zoster of the trifacial nerve. Bacteriological examinations have thus far given negative results.

Treatment.—The disease is ordinarily benign and self-limited, and in many cases no active treatment is called for. Antiseptic mouth-washes and sprays may be advantageously employed, especially during the detachment of the membranes. Hypodermic injections of pilocarpine hydrochlorate have been highly recommended by Vialle.[5] For the ulcerative (aphthous) condition above described, gargles of chlorate of potassium will prove beneficial. General symptoms, as fever, weakness, and severe pain, may require the treatment described for such conditions in previous sections. If rheumatic influences seem to have had a share in the production of the disease, the salicylates, colchicum, aconite, etc., are indicated. J. Solis Cohen[6] advocates the daily application of diluted acids, and the internal use of iron, bark, nux vomica, arsenic, etc., in such persons as seem to have a special predisposition to this affection. The hygienic conditions, if at fault, should by all means be improved.

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[1] Diseases of the Mouth in Children (Non-Surgical), Philadelphia, 1892, p. 35; The Etiology of Stomatitis Aphthosa, Philadelphia Medical News, November 28, 1891.

[2] Loc. cit.

[3] Helmkampf. Diagnose und Therapie der Erkrankungen des Mundes und des Rachens, Stuttgart, 1886, p 234.

[4] Herzog, Ueber Herpes des Rachens, Pester Med.-Chirurgische Presse, 1890, No. 18 u. 19. Ollivier, Nouvelles Recherches sur la Pathogénie de l'Angine Herpétique, La Semaine Médicale, No. 37, 1884.

[5] L'Actualité Médicale, August 15, 1890.

[6] Loc. cit.

RHEUMATIC PHARYNGITIS.

Synonymes.—Rheumatic angina; rheumatic sore throat.

This is an acute affection of the throat, resembling in its symptoms acute catarrhal pharyngitis, and occurs in persons who are otherwise affected with rheumatism. The attack may precede or follow a rheumatic seizure, muscular or articular, or it may occur repeatedly in rheumatic subjects without other contemporary manifestations of the diathesis.

The diagnosis in such cases must be based mainly upon the history of the patient, evolving the fact that we have to deal with a rheumatic subject, and upon the experience that the ordinary local treatment is of no benefit whatever, while a treatment directed against the diathesis quickly proves efficient. Trousseau[1] mentions as characteristic the rapidity with which the painful affection appears and "as if by enchantment" disappears again. In the beginning it is very seldom possible to distinguish between this and any other form of sore throat, unless the patient has been before under treatment for the same ailment. Sometimes the painful sensations are referred to the external muscles of the neck, and wry-neck may accompany or follow an attack. Fever may or may not be present. Generally in a few days the patient feels well again.

However, frequent recurrences are not uncommon, and after a number of them, or even without them, a chronic form of rheumatic sore throat may develop, as E. Fletcher Ingals[2] has pointed out.

Treatment.—Internally, sodium salicylate, salol, potassium bicarbonate, potassium iodide, extract of phytolacca, salophen, syrup of hydriodic acid, etc., are the remedies to be employed. Beverley Robinson[3] recommends purgative medicines, alkaline diuretics, iron in small doses. Locally, soothing sprays or gargles, hot vapors, warm applications around the neck, sometimes, also, slightly astringent pigments (tannin with morphine), will be found useful. If we have to deal with a more chronic form of rheumatic sore throat, the same remedies are used, although their action is frequently not quite so prompt as in the acute form. In obstinate cases, especially where the small muscles surrounding the throat were extraordinarily painful, I have seen the best results follow the external application of the electric current (faradic as well as galvanic), or the use of massage, or of both together.[4]

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[1] Op. cit., p. 334.

[2] Transactions of the Thirty-Eighth Meeting of the Illinois State Medical Society, 1888.

[3] The Rheumatic and Gouty Diathesis as manifested in Diseases of the Throat, New York Medical Record, December 6, 1890.

[4] M. Thorner, Chronic Throat Affections of Rheumatic Origin, Journal of the American Medical Association, May 10, 1890.

GOUTY SORE THROAT (ANGINA ARTHRITICA).

"By the term 'gouty sore throat' is meant the presence of distress in or about the pharynx or larynx, dependent upon the existence of gout in the system."[1] This, to be sure, does not exclude the existence of an ordinary sore throat in gouty subjects without its having anything to do with the diathesis. As to the frequency of gouty sore throat we find great diversity of opinion. Many authors deny its existence entirely. Morell Mackenzie[2] says that while "gout is the last resource of destitute diagnosticians," it cannot be denied that it does explain some obscure phenomena, and that he himself, in the course of a long experience, had met with a few cases. Harrison Allen[3] and Beverley Robinson[4] are inclined to think that in its milder forms gouty sore throat is often quite manifest.

Pain in the throat and intense hyperæmia are the principal symptoms. Sometimes the whole soft palate is œdematous, sometimes the uvula alone. The history of the patient and the examination of the urine, the total amount of uric acid being below the normal, will clear up a doubtful diagnosis. Harrison Allen[5] mentions as a valuable, though not an essential, aid to diagnosis, the condition of the teeth. They are generally large, the antero-posterior diameter being especially exaggerated, and the enamel thick and of yellowish color. These peculiarities of the teeth are confined to the incisors, canines, and bicuspids. The crowns are often blunted, and a disposition exists for recession of the gums from the neck of the teeth.

Treatment must be essentially constitutional. Colchicum is considered of great value. Lithia preparations are largely used. Beverley Robinson[6] recommends, as in the rheumatic sore throat, alkaline diuretics, purgatives (calomel, podophyllin, Carlsbad Sprudel salt), Turkish baths, physical exercise and friction, and iron. Errors of diet must be guarded against. Local applications must be of the most soothing character.

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[1] Harrison Allen, On Gouty Sore Throat, Medical News, Philadelphia, 1888, p. 663.
[2] Gout in the Throat, Journal of Laryngology and Rhinology, 1888, p. 314.
[3] Loc. cit.
[4] Loc. cit.
[5] Loc. cit.
[6] Loc. cit.